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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/770,884	02/02/2004	Ronald E. Loving	1062	1064

7590 11/14/2006  
Ronald E. Loving  
8655 Wise Ave  
Reno, NV 89506

EXAMINER

COCKS, JOSIAH C

ART UNIT PAPER NUMBER

3749

DATE MAILED: 11/14/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/770,884

Applicant(s)

LOVING, RONALD E.

Examiner

Josiah Cocks

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 21 August 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-15 is/are pending in the application.
- 4a) Of the above claim(s) 13-15 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-12 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 21 August 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date 8/21/2006.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_.

**DETAILED ACTION**

***Response to Amendment***

1. Receipt of applicant's amendment filed 8/21/2006 is acknowledged.

***Election/Restrictions***

2. Newly submitted claims 13-15 are directed to an invention that is independent or distinct from the invention originally claimed. The following inventions are now presented.

- I. Claims 1-12, drawn to a heat reactor, classified in class 431, subclass 353.
- II. Claims 13-15, drawn to a method of producing substantially pollution free gases, including spiraling of the feeds classified in class 431, subclass 9.

3. The inventions are distinct, each from the other because of the following reasons:

Inventions I and II are related as process and apparatus for its practice. The inventions are distinct if it can be shown that either: (1) the process as claimed can be practiced by another and materially different apparatus or by hand, or (2) the apparatus as claimed can be used to practice another and materially different process. (MPEP § 806.05(e)). In this case, the process can be practiced by a materially different apparatus, such as a heat reactor having a baffle that is positioned at some angle other than substantially perpendicularly in order to create a whirled mixture. Further, the apparatus can also be used to practice another materially different process such as production of a combustion product for use as a motive fluid in operating a turbine engine.

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Since applicant has received an action on the merits for the originally presented invention, this invention has been constructively elected by original presentation for prosecution on the merits. Accordingly, claims 13-15 are withdrawn from consideration as being directed to a non-elected invention. See 37 CFR 1.142(b) and MPEP § 821.03.

### ***Specification***

4. The specification is objected to as failing to provide proper antecedent basis for the claimed subject matter. See 37 CFR 1.75(d)(1) and MPEP § 608.01(o). Correction of the following is required:

Claim 5 recites that the flow conditioner is “coated” with a high resistant material. However, applicant’s specification does not provide antecedent basis for this claimed coating of the flow conditioner.

Correction is required.

### ***Claim Rejections - 35 USC § 112***

5. The prior rejections under 35 USC § 112 made to claims 5 and 9 are withdrawn.

### ***Claim Rejections - 35 USC § 102***

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

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7. **Claims 1-12** are rejected under 35 U.S.C. 102(b) as being anticipated by U.S. Patent No. 4,183,896 to Gordon ("Gordon") (previously cited).

Gordon discloses in the specification and Figs. 1-15 an invention in the same field of endeavor as applicant's invention and as described in applicant's claims 1-12. In particular, Gordon shows a heat reactor system comprising an elongated tubular housing having an inlet duct (146) for receiving injected fuel and air and an outlet duct (exit of 116) for expelling heated gases (see Fig. 10). The elongated tubular housing is portioned internally by at least one flow conditioner (148, 150, and/or 152) substantially perpendicularly positioned along the axis of the housing thus forming at least a first combustion chamber (114) and at least one reactor compartment (compartment containing the flow conditioners).

In regard to claims 2-5, the embodiment of Figs. 1-8 of Gordon describes that the tubular housing (15) is made of steel, a heat resistant material, and the interior flow conditioner/discs (13) are made of ceramic, also a heat resistant material. These elements are considered to correspond to the housing (116) and discs (148, 150, 152) shown in the embodiment of Fig. 10 and suggest that these elements of Fig. 10 would also be made of steel and ceramic, respectively. Further, Gordon provides that both the housing (15) and discs (13) are further coated with a porcelain, a heat resistant material, to provide strength and heat retention (see col. 3, lines 47-55). This is also considered to suggest a porcelain coating on the corresponding elements of the embodiment of Fig. 10.

In regard to claim 6, note the multiple reactor compartments formed by multiple flow conditioners (148, 150, 152).

In regard to claim 7, see Figs. 10, 14, and 15, and note that plates (148, 150, and 152) are formed as circular discs and multiple slits that are bent outwardly forming vanes which direct airflow in a controlled angular manner outwardly (see col. 7, lines 24-48).

In regard to claim 8, Fig. 10 shows that the plates (148, 150, and 152) are arranged in grooves within the housing 116). Further, as previously noted, the plates (148, 150, and 152) are considered to correspond to discs (13) of a prior embodiment of Gordon and expressly recited to be in grooves (29) that serve to orient the discs. These grooves are considered to be the multiple locating tabs recited.

In regard to claims 9, 10, and 12, the circular discs (148, 150, 152) are considered to include multiple cross bars in the same manner as recited by applicant (see at least Figs. 14 and 15). Also, Gordon provides that the fuel and air passing into the combustion chamber are ignited by igniter (190) in order to release heat (see col. 8, lines 34-54). Further, the baffle plates (148, 150, 152) are arranged such that the openings in the plates are non-aligned in order to produce a diverted through therethrough (see col. 7, lines 42-45) that serves to increase the retention/dwell time of the gases in the combustion section (114). This diverted flow for increased retention time is considered to suggest the recited spiraling motion for increased dwell time as recited in applicant's claims. Lastly, the result is non-polluted (i.e. pollution free or virtually pollution free) exhaust fumes (see at least col. 1, lines 12-15).

In regard to claim 11, at least gas is disclosed as the fuel passed to combustion chamber (114) (see at least col. 8, lines 55-59).

***Response to Arguments***

8. Applicant's arguments with respect to claims 1-12 have been considered but are moot in view of the new ground(s) of rejection.

***Conclusion***

9. The new grounds of rejection presented in this Office action are not considered to have been necessitated by applicant's amendment. Accordingly, this action is made non-final. A THREE (3) MONTH shortened statutory period for reply has been set. Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Josiah Cocks whose telephone number is (571) 272-4874. The examiner can normally be reached on M-F 8:00-5:30.


Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR

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system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

jcc

November 9, 2006

  
JOSIAH COCKS  
PRIMARY EXAMINER  
ART UNIT 3749



Appl. No. : 10/770,884  
Filed : February 2, 2004

Drawings filed 8/2/06  
OK to enter  
ju

16. AMENDMENTS TO THE DRAWINGS

Drawings 3 and 4 have been resubmitted in black ink as required by the Examiner.

The drawings of Figure 2 have been corrected to refer to "heat reactor housing."